

Claims 1-24 are pending in this application. Claims 1-24 have been rejected. In view of the above amendments and the following remarks, Applicants respectfully submit that the present applications is in condition for allowance. Therefore, reconsideration and a timely notice of allowance are respectfully requested.

The Examiner rejected claims 1-24 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner rejected claims 1 and 24 because while the specification quantifies "very high axial strength" via the ability to withstand pressures, the Examiner alleges that it is unclear what the units of pressure "x g" is. Therefore, the Examiner alleges that the characterization "very high axial strength" is rendered indefinite.

Applicants submit that "very high axial strength" is defined in the specification as "a very high strength along its longitudinal axis such that the container can withstand at least about 1000 x g." (See, Pg. 6, lines 8 and 9). Applicants submit that one skilled in the art of centrifugation will understand that "g" refers to the standard acceleration of gravity which is 9.8 m/sec². The strength of a relative centrifugal field experienced by an object in a centrifuge is the ratio of the centrifugal acceleration at a specified radius and speed to the standard acceleration of gravity. Therefore, "1000 x g" is referring to a force that is 1000 times the force of gravity. This definition is consistent with the usage in Col. 6, line 1 of

U.S. Patent No. 4,531,652 to Hara, cited by the Examiner against the present application.

With regard to claim 2, the Examiner alleges that it is unclear what the unit "x g" is. The Examiner alleges that the specification refers to "x g" as units of pressure, and the claim refers to "x g" as units of force. As explained above, "x g" is referring to "times the force of gravity". Applicants have amended the specification to clarify that "x g" is referring to a force.

With regard to claim 14, the Examiner alleges that it is unclear how the side walls of the transverse axis are higher in elevation than the side walls along the first transverse axis. Applicants have amended claim 14 to state that "the side walls of the container along the second transverse axis are higher in elevation than the side walls along the first transverse axis." This amendment finds full support in the specification on page 7, lines 3 to 11.

The elevation of the sidewalls along the second transverse axis is being compared to the elevation of the sidewalls along the first transverse axis. Claim 14 is directed to a container that is not a right cylinder, but rather a shape having a longer traverse axis perpendicular to a shorter transverse axis as shown by reference numerals 26 and 28 in FIG. 5.

With regard to claim 20, the Examiner alleges that it is unclear that any physical matter does not have any corners or edges. Claim 20 states that "the transition of the bottom wall to the one or more side walls is smooth and defines no corners or edges." Webster's Ninth New Collegiate Dictionary, published by Merriam-Webster Inc., 1987, defines "corner" as "the point where

converging lines, edges, or sides meet" and as "the angular part or space between meeting lines, edges, or borders near the vertex of the angle." As shown in FIG. 7, the transition of the bottom wall to the one or more side walls is smooth and does not define an angular intersection.

In view of the above amendments and remarks, Applicants respectfully request that the rejection of claims 1-24 under 35 U.S.C. §112, second paragraph be withdrawn.

The Examiner rejected claims 1, 3 and 4 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 5,147,055 to Samson et al. Applicants respectfully traverse this rejection.

Claim 1 is directed to "a container having very high axial strength." As explained in the specification, "a very high axial strength" means "that the container can withstand at least about 1000 x g." (See, Pg. 6, lines 8 and 9). Samson et al. is directed to a diaper container, not a centrifuge, and does not teach the limitation that the container "has a very high axial strength." Claims 3 and 4 depend from claim 1 and by definition contain all of the limitations of claim 1. Therefore, Applicants respectfully request that this rejection be withdrawn.

The Examiner rejected claims 1-5, 15, 16, 20 and 23 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara. Applicants respectfully traverse this rejection.

The present invention is directed to centrifuge labware. As explained in the specification, sample mixtures in need of separation are placed in a plurality of containers called

centrifuge labware. The samples are rotated at high speed within a centrifuge until the components of the samples are separated by centrifugal force. (See, Pg. 1, line 11 to Pg. 2, line 2.). Thus, the present invention is directed to containers for use inside of a centrifuge and for withstanding high centrifugal force.

Kelley et al. is directed to a centrifuge apparatus. As explained in Col. 4, line 42 to Col. 5, line 2, the centrifuge apparatus has a spinner, a rotor and a cytology cell concentrator. The spinner supports the rotor for rotation. The spinner includes a housing 26 having a central depression, or bowl 14 for removably supporting the rotor 40 for rotation. A lid 24 is provided to cover the bowl and the rotor.

The Examiner cites to the bowl 14 of the housing as a very high axial strength container, and to the lid 24 as a lid having a very high axial strength. Contrary to the assertions of the Examiner, Applicants respectfully submit that the bowl 14 of the housing and the lid 24 do not rotate and are not subjected to the high forces created by rotation. Applicants respectfully submit that the bowl 14 of the housing taught by Kelley is not the "container having very high axial strength" recited in claim 1. Moreover, applicants respectfully submit that the lid 24 taught by Kelley is not a lid "having a very high axial strength" recited in claim 1. Therefore, Applicants submit that Kelley fails to teach either the container or the lid claimed in Claim 1.

Hara is directed to a bucket for use in a centrifuge. Applicants submit that Hara does not teach the use of "a removable non-threaded lid having an exterior surface, an

interior surface and a very high axial strength." Additionally, the rotor and cell concentrators described in Kelley et al. are very different than those necessary to utilize the bucket taught by Hara. Applicants submit that the Examiner has not shown that one skilled in the art would be motivated to combine the centrifuge apparatus taught by Kelley et al. with the bucket taught by Hara. Applicants respectfully submit that Kelley et al. and Hara taken alone or in combination fail to teach all of the elements of claim 1. Therefore, Applicants respectfully request that this rejection be withdrawn with regard to claim 1.

Claims 2-5, 15, 16, 20 and 23 depend from claim 1 and by definition contain all of the limitations of claim 1. Applicants respectfully submit that claims 2-5, 15, 16, 20 and 23 are patentable over Kelley et al. and Hara, either alone or in combination for the reasons given above with regard to claim 1 as well as because of the additional limitations contained therein. Therefore, Applicants respectfully request that this rejection be withdrawn with regard to claims 2-5, 15, 16, 20 and 23.

Additionally, the Examiner rejected claims 6 and 7 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al. The Examiner rejected claim 7 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,642 to Hara and U.S. Patent 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 3,556,303 to Diebold et al. or U.S. Patent No. 6,312,648 to Lenardo et al. The Examiner

rejected claims 8, 10, and 12-14 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al. The Examiner rejected claim 9 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al. and U.S. Patent No. 5,316,731 to Schrenk et al. The Examiner rejected claim 11 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 5,224,515 to Foster et al. and U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 6,149,570 to Lowe et al. The Examiner rejected claim 17 to 19 under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 4,119,407 to Goldstein et al. The Examiner rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent No. 3,820,546 to Chittenden et al. Finally, the Examiner rejected claim 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and WO 02/02735 to Lee. Applicants respectfully traverse these rejections.

All of claims 2 to 23 depend from claim 1 and by definition contain all of the limitations of claim 1. Applicants submit that claim 1 is patentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara for

the reasons given above. All of the above rejections under §103(a) are based principally upon U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara. As explained above, neither of these references teach a lid "having a very high axial strength". Moreover, nothing in any of the secondary references discloses or suggests this very important feature of the invention.

Accordingly, since no combination of any of the references cited disclose or fairly suggest the use of a lid "having a very high axial strength", there is no basis for deeming obvious any of the claims in this application. No individual of ordinary skill in the art, having knowledge of the references cited, would have found it obvious to provide the unique lid and container of the present invention.

Therefore, Applicants respectfully request that these rejections be withdrawn.

The Examiner rejected claim 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara and U.S. Patent 6,299,038 to Schmeisser et al. or U.S. Patent No. 5,316,731 to Schrenk et al. and U.S. Patent No. 5,224,515 to Foster et al. Applicants respectfully traverse this rejection.

Claim 24 contains the limitations of "a container having very high axial strength" and "a removable non-threaded lid having an exterior surface, an interior surface and a very high axial strength." As explained above with regard to claim 1, U.S. Patent No. 5,480,484 to Kelley et al. in view of U.S. Patent No. 4,531,652 to Hara fails to teach these limitations.



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Applicants respectfully submit that Schmeisser et al., U.S. Patent No. 5,316,731 to Schrenk et al., and U.S. Patent No. 5,224,515 to Foster et al., either alone or in combination fail to remedy the defects of Kelley et al. and Hara. Therefore, Applicants respectfully request that this rejection be withdrawn as to claim 24.

In view of the above amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Accordingly, reconsideration and a timely Notice of Allowance is respectfully requested.

No fee is believed due with this communication. However, the Commissioner is authorized to charge any fee believed due from Deposit Account No. 19-2090.

Respectfully submitted,

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APPENDIX SHOWING CHANGES MADE

In the Specification:

Please replace the paragraph beginning on page 7, line 13 with the following paragraph:

The lid 14 is a removable, non-threaded structure having an exterior surface 32, an interior surface 34 and a very high axial strength. By "very high axial strength," it is meant that the lid 14 can withstand axial pressures forces of at least about 1000 x g, preferably at least about 4000 x g, and most preferably 5000 x g, applied to the exterior surface 32 of the lid 14. The lid 14 is sized and dimensioned to cover the top opening 22 so as to seal the interior chamber 20 of the container 12.

In the Claims:

14. (Amended) The centrifuge labware of claim 12 wherein the first transverse axis is longer than the second transverse axis and wherein the side walls of the container along the second transverse axis are higher in elevation than the side walls along the first transverse axis.